

## DRAFT CONSTRUCTION COMPLETION REPORT

## FORMER EAST OVERFLOW POND REMEDIAL ACTION

## SIMPLOT PLANT AREA EASTERN MICHAUD FLATS SUPERFUND SITE

August 2002

Prepared for:

J.R. SIMPLOT COMPANY P.O. Box 912 1130 Highway 30 Pocatello, ID 83204

Prepared by:

MFG, INC. consulting scientists and engineers

4900 Pearl East Circle, Suite 300W Boulder, CO 80301 (303) 447-1823 FAX 447-1836

MFG Project No. 010121-5

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## 1.0 INTRODUCTION

This Construction Completion Report (CCR) documents the remedial actions performed for the Former East Overflow Pond at the Simplot Plant Area of the Eastern Michaud Flats (EMF) Superfund Site (the Site), located near Pocatello, Idaho. Remedial actions at the Former East Overflow Pond are a required component of the comprehensive Site remedy described in the Record of Decision (ROD; USEPA, 1998) and subsequent Consent Decree for the Simplot Plant Area portion of the Site (USEPA, 2002).

## 1.1 Site Description and Project History

The EMF Site is located near the City of Pocatello, Idaho (Figure 1) and includes two industrial facilities: the FMC Elemental Phosphorus Facility (which ceased operations in December 2001) and the J.R. Simplot Don Plant. The Don Plant produces phosphoric acid and a variety of liquid and solid fertilizers. FMC produced elemental phosphorus. The EPA has divided the Site into three areas: the FMC Plant Area includes the FMC facility and adjacent land owned by FMC; the Simplot Plant Area includes the Don Plant and adjacent land owned by Simplot; and the Off-Plant Area, which surrounds the FMC- and Simplot-Plant Areas.

The Simplot Don Plant covers approximately 745 acres and adjoins the eastern property boundary of the FMC facility (see Figure 2). The main portion of the plant lies approximately 500 feet southwest of the Portneuf River. Of the 745 acres, approximately 400 acres are committed to the gypsum stack. Another 185 acres are occupied by the plant and its infrastructure. A significant portion of the remaining acreage to the south and southeast of the plant consists of cliffs and rugged steep terrain. A Union Pacific Railroad right-of-way is adjacent to the northern fence line of the Don Plant and passes through the northern portion of the Simplot Plant Area, paralleling U.S. Highway 30. Access to the Don Plant is provided by I-86 and U.S. Highway 30.

The Don Plant began production of a single superphosphate fertilizer in 1944. Phosphoric acid production began in 1954. Currently, the plant produces 12 principal products, including five grades of solid fertilizers and four grades of liquid fertilizers. The principal raw materials for the process are

phosphate ore, which is transported to the facility via a slurry pipeline from the Smoky Canyon mine, sulfur, air and ammonia. The primary byproduct from the Don Plant process is gypsum (calcium sulfate), which is stacked on site.

An Administrative Order on Consent (AOC) was issued by the U.S. Environmental Protection Agency (EPA) on May 30, 1991 and entered into voluntarily by FMC and Simplot. The AOC specified requirements for implementation of a Remedial Investigation (RI) and Feasibility Study (FS) to evaluate site conditions and remedial alternatives to address any potential threats to human health and the environment. Based on the findings of these studies, EPA issued a Record of Decision (ROD; USEPA, 1998), specifying the selected remedial actions for the Site on June 8, 1998. A Consent Decree (USEPA, 2002) between EPA and Simplot, which specified the conditions for implementing the selected remedial actions in the Simplot Plant Area portion of the Site, was entered on May 9, 2002.

## 1.2 Remedial Action Objective and Performance Standard

Remedial actions to excavate gypsum sediments from the area of the Former East Overflow Pond and construction of a new, lined impoundment were a required work element under the Consent Decree Statement of Work (SOW). As described in the SOW, the objective of the actions was "to reduce the potential for infiltration through potential source materials".

In addition, the SOW states that the 'performance of this element of the work will be evaluated by monitoring groundwater for the contaminants of concern at upgradient and down gradient locations."

## 1.3 Report Organization

This CCR summarizes the remedial actions performed for the Former East Overflow Pond work element. Section 2 presents the construction chronology. Section 3, presents the details of the construction activities, including results of confirmation sampling performed to verify removal of the gypsum sediments from the pond area and details pertaining to construction of the new, lined impoundment in the excavated area. Section 4 summarizes the groundwater monitoring activities to be

conducted in evaluating the performance of the remedial actions. Field and laboratory data reports associated with sediment removal are contained in Appendix A and as-built construction drawings for the project are included as Appendix B.

## 2.0 CONSTRUCTION SUMMARY AND SEQUENCE

Remedial actions were implemented at the Former East Overflow Pond in the second half of 1997. The work activities consisted of excavating sediments from the bottom of the Former East Overflow Pond and over-excavating the underlying material to create the foundation for a new, lined impoundment. The excavated materials were relocated to the gypsum stack and confirmatory sampling was performed to verify that the sediments had been removed prior to impoundment construction. Once these actions were completed, fill material was imported from an on-site borrow area, compacted and shaped to form the base for the lined impoundment. A double-lined impoundment with a leak detection system was then constructed on the prepared subgrade.

## 3.0 CONSTRUCTION ACTIVITIES

The following sections detail the activities conducted to complete the Former East Overflow Pond remedial actions.

## 3.1 Sediment Removal

A tracked excavator was used to remove the materials from the base of the Former East Overflow Pond. During excavation a visually distinct surficial layer of light colored material, typically one to three feet thick, and the underlying material were removed. The excavated materials were loaded into tandem dump trucks, transported to the southwest corner of the lower gypsum stack and placed on the gypsum stack (see as-built drawing C-214 in Appendix B for location). Following removal of the visible pond sediments, the excavation was advanced as necessary to achieve the excavation depth required for the new pond construction.

## 3.2 Confirmation Sampling

Four samples were collected from the base of the excavation to verify that the sediments had been removed. Two samples were collected from the east end of the excavation, one sample was collected from near the center of the excavation and one sample was collected from the north side of the excavation. A sketch of the sampling point locations is included in Appendix A.

The samples were analyzed for arsenic (Method 6010A) by Mountain States Analytical, Inc. of Salt Lake City, Utah. Arsenic was not detected in any of the four samples above the limit of quantitation of 15 mg/Kg. Copies of the field documentation and laboratory report for the samples are included as Appendix A.

## 3.3 New Impoundment Construction

Following excavation and confirmation sampling, replacement fill was imported, compacted and shaped to provide a suitable subgrade for construction of the new, lined impoundment. The impoundment was constructed with a double liner system with leak detection between the liners. As-built construction drawings of the new impoundment system are attached as Appendix B.

#### 4.0 GROUNDWATER MONITORING

Groundwater monitoring will be performed at locations upgradient and down gradient of the Former East Overflow Pond to evaluate the performance of the remedial actions. Beginning with the start-up of the groundwater extraction system for gypsum stack affected groundwater, groundwater samples will be collected quarterly and will continue for a period of five years. Well 332 will be monitored to characterize the upgradient groundwater and well 318 will be monitored to characterize the down gradient groundwater (see Figure 2).

During use, the Former East Overflow Pond was identified as a source of arsenic and sulfate to groundwater. Therefore, the groundwater samples from wells 332 and 318 will be analyzed for these constituents. The sample will also be sampled for field parameters (temperature, pH, conductivity and turbidity) and other chemical constituents that may also be useful in evaluating performance of the groundwater extraction system.

Because constituent concentrations in groundwater underlying the Former East Overflow Pond are expected to change in response to the start-up of the groundwater extraction system, data from the extraction start-up phase will not be used in evaluating performance. Following the start-up period, constituent concentrations in groundwater immediately down gradient of the pond will be compared with constituent concentrations immediately upgradient of the pond using an analysis of variance method (in particular, the one-way parametric analysis of variance). Further details of the statistical methods that will be used in evaluating the groundwater data are described in the Groundwater Monitoring Remedial Design Report (Simplot, 2002a).

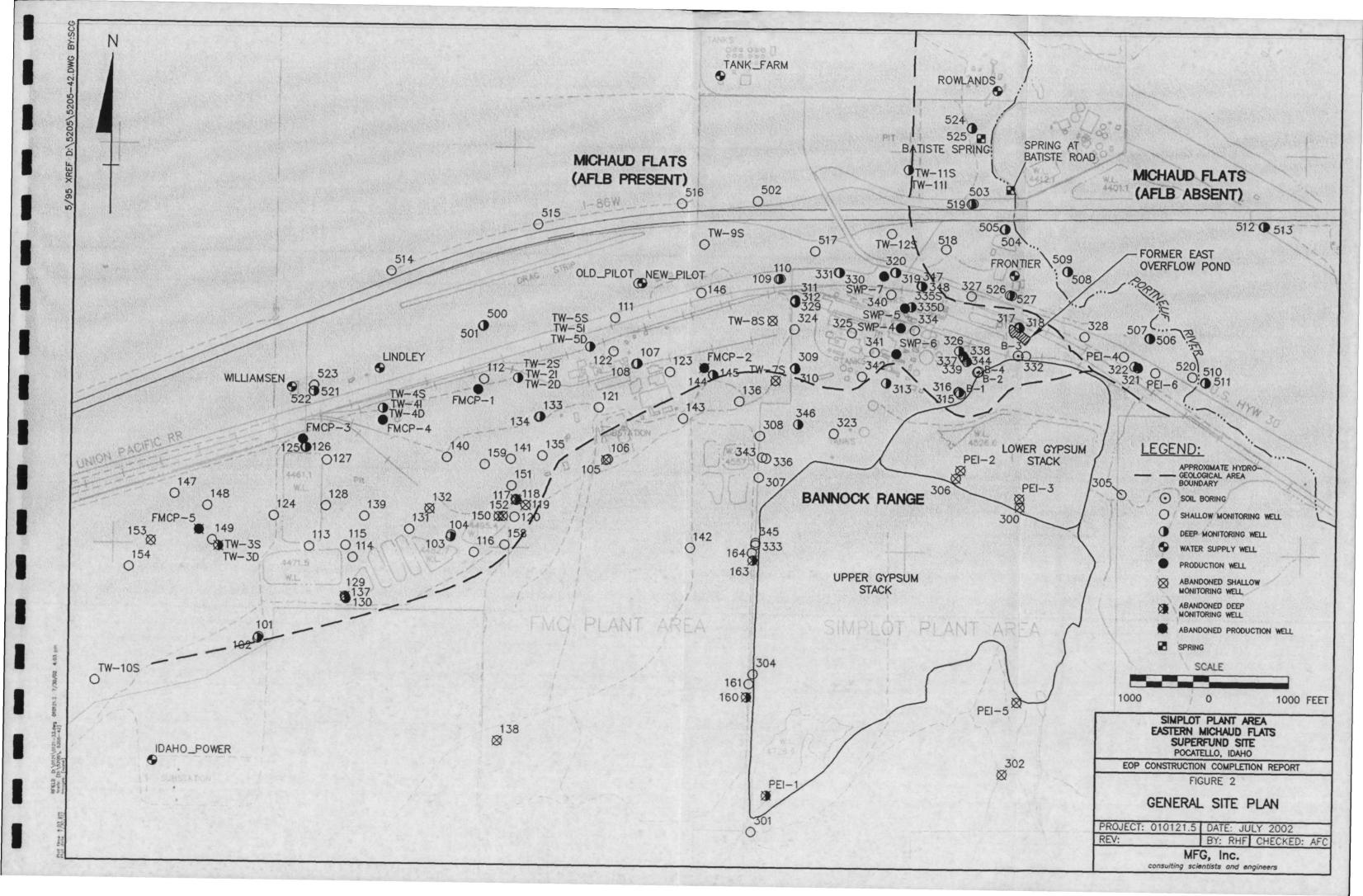
At the end of the five year monitoring period, the groundwater data will be evaluated to assess performance of the remedial actions. If the data demonstrate that the pond has had no effect on groundwater quality, the performance standard for the remedial actions will be met and the monitoring will be discontinued. If the performance standard is not met, a Corrective Action Plan will be prepared and submitted by Simplot, which will provide details of any corrective actions proposed for the pond and ongoing monitoring. The Corrective Action Plan will be implemented on approval by EPA.

## 5.0 REFERENCES

- J.R. Simplot Company (Simplot), 2002a. Draft Prefinal Remedial Design Report, Groundwater Monitoring, Simplot Plant Area Eastern Michaud Flats Superfund Site. Prepared by MFG, Inc.
- U.S. Environmental Protection Agency (EPA). 1998. Record of Decision for the Eastern Michaud Flats Superfund Site. June 8, 1998.
- U.S. Environmental Protection Agency (EPA), 2002. Consent Decree for Remedial Design/Remedial Action for the Simplot Plant Area at the Eastern Michaud Flats Superfund Site. U.S. EPA Region 10. May 9, 2002.

## **FIGURES**

**FIGURES** 



APPENDICES

## APPENDIX A

## APPENDIX A

Field Sample Documentation and Laboratory Report

# Field Notes From Jample logbook.

Signed

				. :	r * ** .
7/31/97	N/A-Samples pulled for	soils	Soil samples pulled at the reguest of Paul Aschen bremer		fcc 810
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	sham-sampler		prior to building new, lined pond in the old		
Paul Otto - Paul Audenb	renner-Engineer		East over flow Pond bed.	• • • • • • • • • • • • • • • • • •	
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			77-2/2-01		
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97-212-01		Greb - Sandy/Gravel	Pains shop Engrev Selected site	_	d Ce
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15:40		Grab - Havd Clay w come sypsum	06 below bottom	-	da-
97-212-03 15:48		Grab - Hard Clay	Engineer Selected site		du.
97-212-04 15:50		Grab - Had Clay of	Random - Grade Read and Understood By	Centinued on	Page W

Date

Signed

Date



October 15, 1997

Mr. John Cunningham J.R. Simplot Company P.O. Box 912 1150 Highway 30 West Pocatello, ID 83201

Reference: -

Project: Soil Samples MSAI Group: 18112

Dear Mr. Cunningham:

Enclosed are the analytical results for your project referenced above. The following samples are included in the report.

97-212-01

97-212-02

97-212-03

97-212-04

All holding times were met for the tests performed on these samples.

Thank you for selecting Mountain States Analytical, Inc. to serve as your analytical laboratory on this project. If you have any questions concerning these results, please feel free to contact me at any time.

We look forward to working with you on future projects.

With Regards,

Rolf E. Larsen

Project Manager

## 



The Quality Solution

J.R. Simplot Company

P.O. Box 912

1150 Highway 30 West Pocatello, ID 83201

Attn:

Mr. John Cunningham

Project: Soil Samples

Sample ID: 97-212-01

Matrix: Soil

Analysis

-----

MSAI Sample: 69154 18112

MSAI Group: Date Reported: 10/15/97

Discard Date: 11/14/97

Date Submitted: 10/01/97 07/31/97 Date Sampled:

JC Collected by: Purchase Order: 800005

Project No.:

Results

as Received

Units

Timit of Quantitation

282

Batch: \$

15

Arsenic by ICP, sw, 6010A Method: SW-846 6010A

OI Flame/ICP Prep, sw, 3050A

Method: SW-846 3050A

ИD

mq/kg

ND - Not detected at the limit of quantitation

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

> Respectfully Submitted, Reviewed and Approved by:

Rolf E. Larsen

Project Manager

1645 West 2200 South, Salt Lake City, Utah 84119 1-801-973-0050 1-800-973-6724 (MSAI) FAX 1-801-972-6278



Quality Service



## Mountain States Analytical, Inc.

The Quality Solution

J.R. Simplot Company

P.O. Box 912

1150 Highway 30 West 83201

Pocatello, ID

Mr. John Cunningham

Project: Soil Samples

Sample ID: 97-212-02

Matrix: Soil

Analysis

MSAI Sample:

69155

MSAI Group:

18112

Date Reported: 10/15/97

Discard Date:

11/14/97

Date Submitted: 10/01/97

Date Sampled:

07/31/97

Collected by:

Purchase Order: 800005

Project No :

282

Results as Received

Ratch: s

Units \_ - - - -

Limit of Quantitation

Of Flame/ICP Prep, sw, 3050A

Method: SW-846 3050A

Arsenic by ICP, sw, 6010A Method: SW-846 6010A

ND

mg/kg

15

ND . Not detected at the limit of quantitation

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

> Respectfully Submitted. Reviewed and Approved by:

Project\_Manager

1645 West 2200 South, Salt Lake City, Utah 84119 1-801-973-0050 1-800-973-6724 (MSAI) FAX 1-801-972-6278



## 



## Mountain States Analytical, Inc.

The Quality Solution

J.R. Simplot Company

P.O. Box 912

1150 Highway 30 West Pocatello, ID 83201

Attn: Mr. John Cunningham

Project: Soil Samples

Sample ID: 97-212-03

Matrix:

Soil

MSAI Sample:

69156

MSAI Group:

19112

Date Reported: 10/15/97

Discard Date:

11/14/97

Date Submitted: 10/01/97

Date Sampled:

07/31/97

Collected by:

JC

Purchase Order: 800005

Project No.:

Analysis

Results as Received

Batch: s

Units

Limit of Quantitation

\_\_\_\_\_

282

OI Flame/ICP Prep, sw, 3050A Method: SW-846 3050A

ND

mg/kg

15

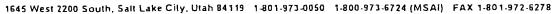
Arsenic by ICP, sw, 6010A Method: SW-846 6010A

ND - Not detected at the limit of quantitation

This report consists of the following items A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary. Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

> Respectfully Submitted, Reviewed and Approved by:

Project Manager





Quality



## Mountain States Analytical, Inc.

The Quality Solution

J.R. Simplot Company

P.O. Box 912

1150 Highway 30 West Pocatello, ID 83201

Mr. John Cunningham

Project: Soil Samples

Sample ID: 97-212-04

Attn:

Matrix:

Soil

MSAI Sample:

69157

MSAI Group:

18112

Date Reported: 10/15/97

Discard Date:

1/14/97

Date Submitted: 10/01/97

Date Sampled:

07/31/97

Limit of

Quantitation

Collected by:

JC Purchase Order: 800005

Project No.:

Analysis

\_\_\_\_\_

901 Flame/ICP Prep, sw, 3050A

Method: SW-846 3050A

Arsenic by ICP, sw. 6010A Method: SW-846 6010A

Results

as Received

Batch: 5

ND

282

Units

πg/kg

• 5

ND - Not detected at the limit of quantitation

This report consists of the following items: A cover letter, a signed analytical report for each sample specified on the cover letter, and if applicable, an inorganic quality control summary Organic sample reports contain footnotes which describe any quality control anomalies which may have occurred.

> Respectfully Submitted, Reviewed and Approved by:

Rolf E. Larsen Project Manager

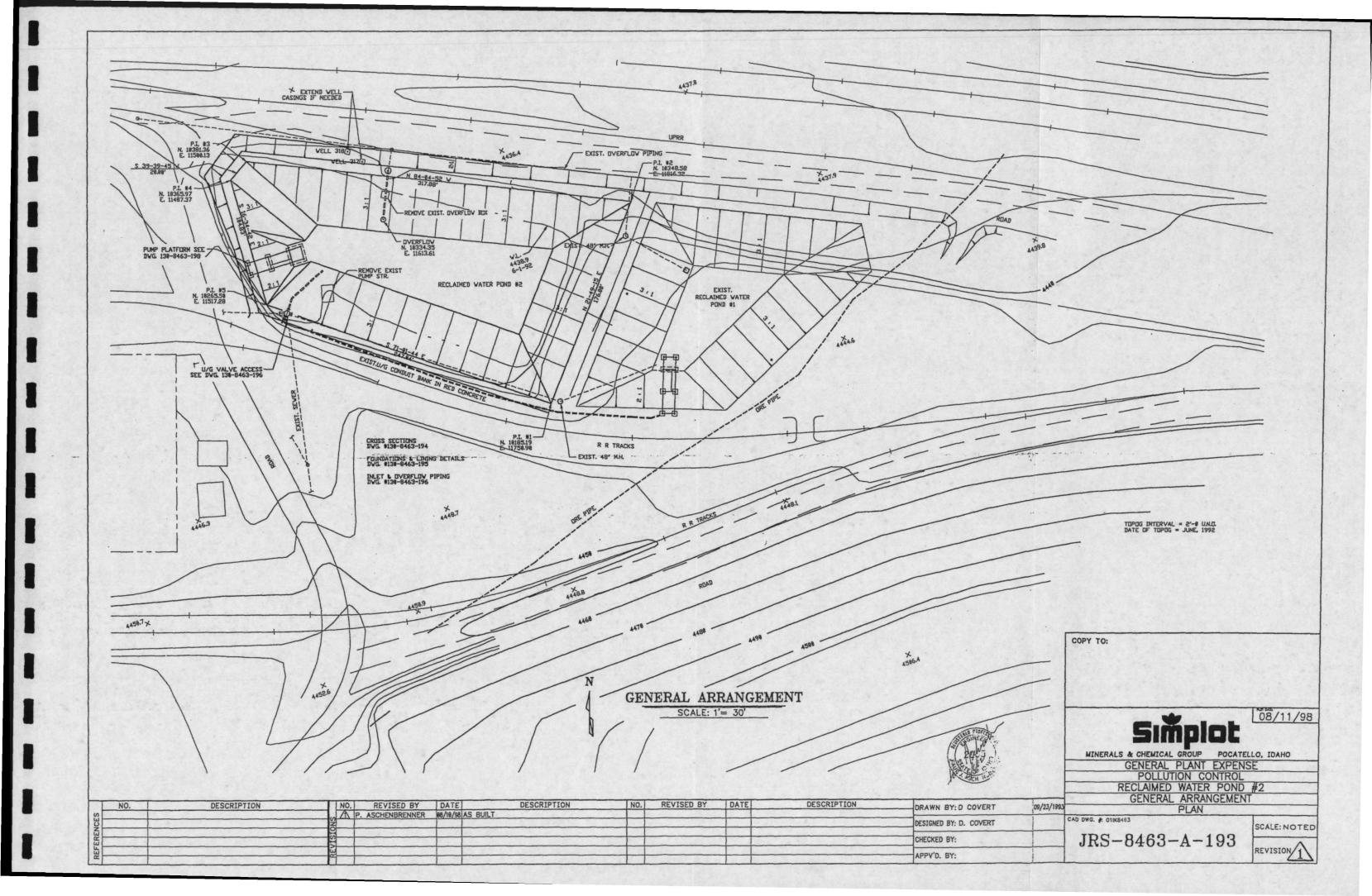


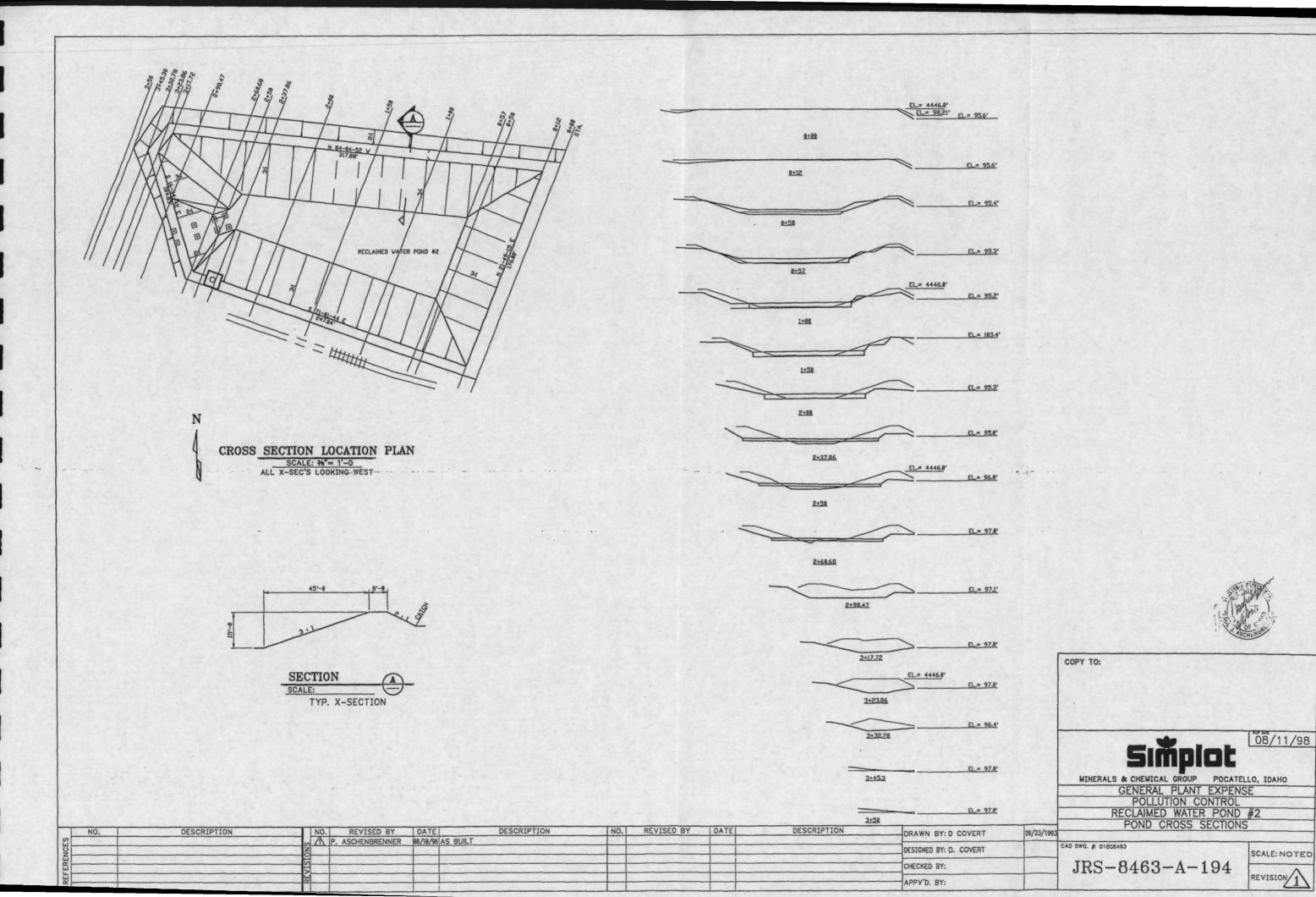
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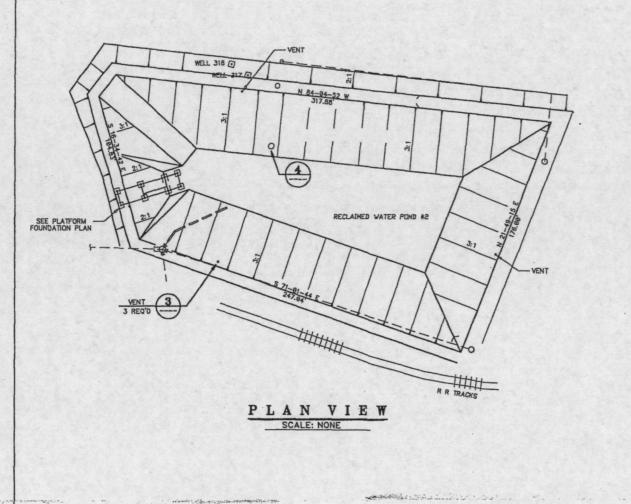
## APPENDIX B

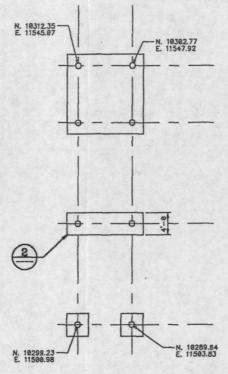
## APPENDIX B

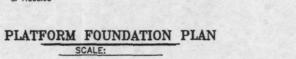
As-built Construction Drawings for the New, Lined Impoundment
(Reclaim Water Pond #2)

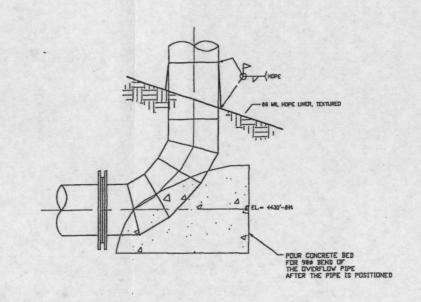


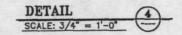


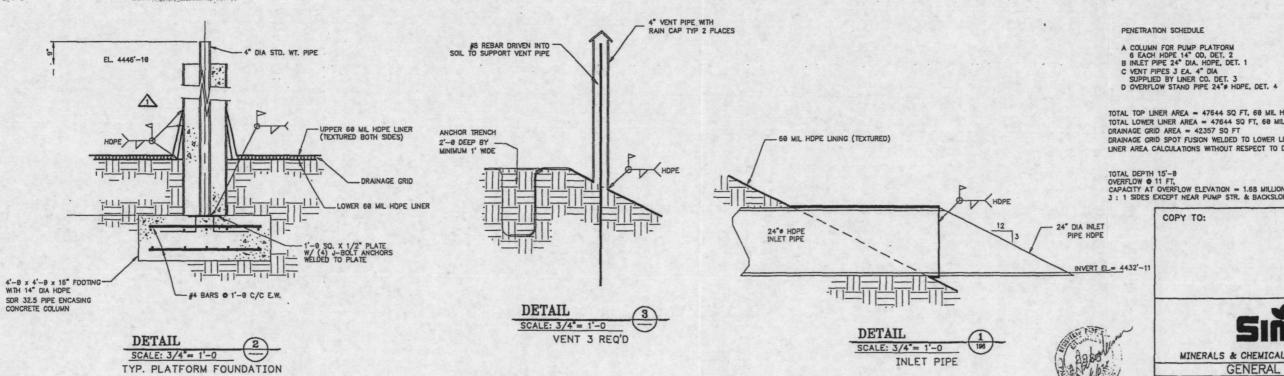












PENETRATION SCHEDULE

TOTAL TOP LINER AREA = 47644 SQ FT, 60 MIL HDPE (TEXTURED BOTH SIDES)
TOTAL LOWER LINER AREA = 47644 SQ FT, 60 MIL HDPE OR LDPE (TEXTURED ONE OR BOTH SIDES)
DRAINAGE GRID AREA = 42357 SO FT
DRAINAGE GRID SPOT FUSION WELDED TO LOWER LINER ON 8'-0 CENTERS, 2" MINIMUM LENGTHS
LINER AREA CALCULATIONS WITHOUT RESPECT TO DROP

TOTAL DEPTH 15'-8
OVERFLOW © 11 FT,
CAPACITY AT OVERFLOW ELEVATION = 1.68 MILLION GAL
3: 1 SIDES EXCEPT NEAR PUMP STR. & BACKSLOPES= 2: 1

COPY TO:

SIMPLOT
MINERALS & CHEMICAL GROUP POCATELLO, IDAHO

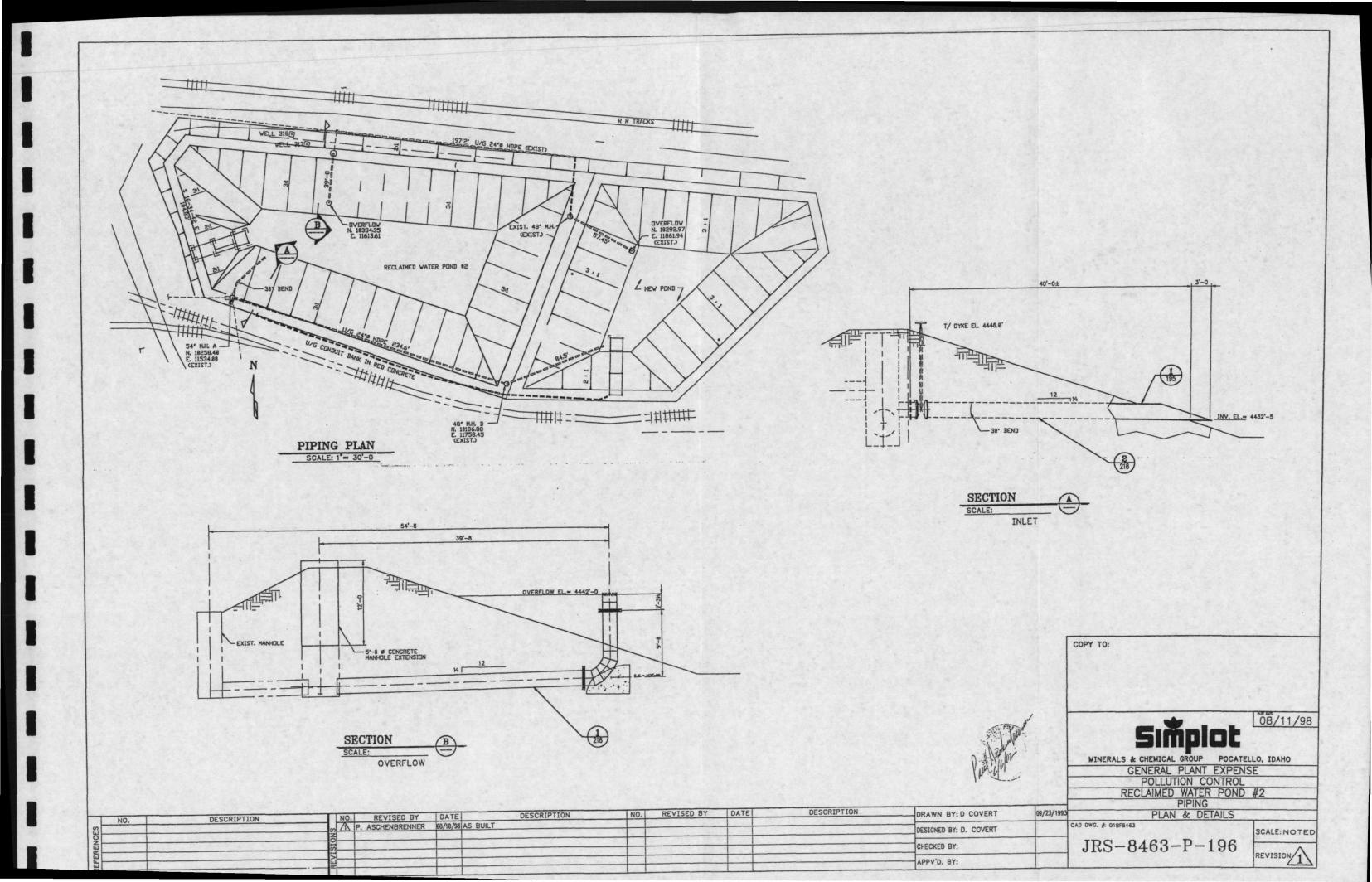
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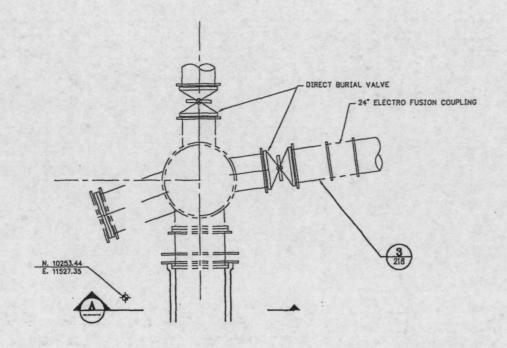
GENERAL PLANT EXPENSE
POLLUTION CONTROL
RECLAIMED WATER POND #2
POND FOUNDATIONS & LINING
PLAN & DETAILS

JRS-8463-C-195

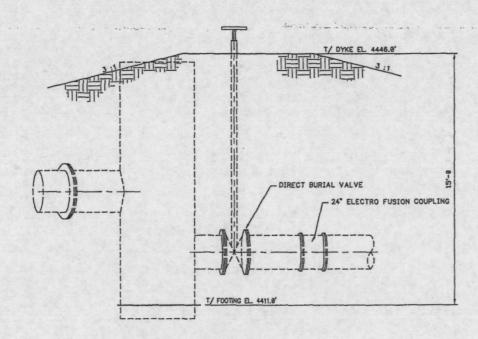


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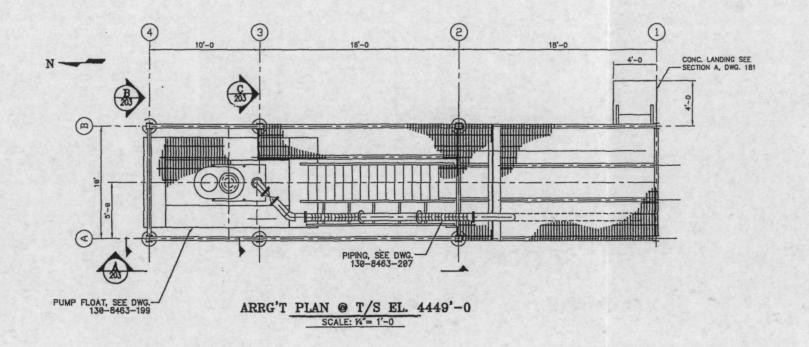
GENERAL PLANT EXPENSE

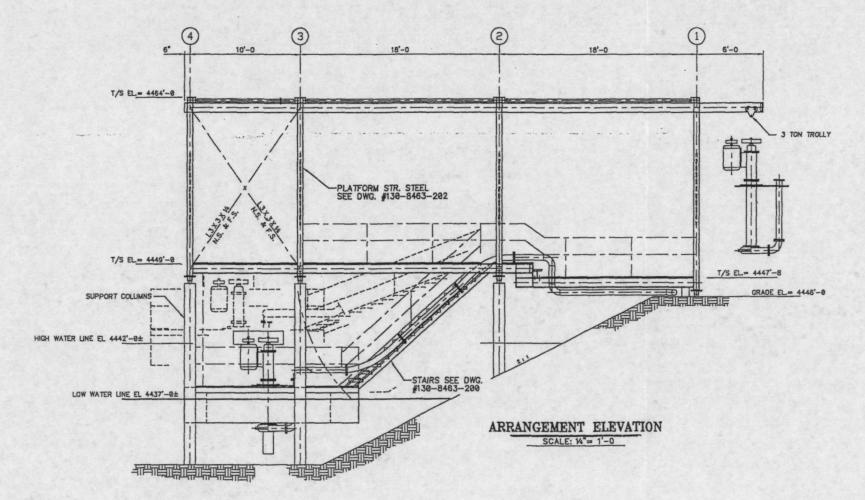
POLLUTION CONTROL

RECLAIMED WATER POND #2

08/11/98

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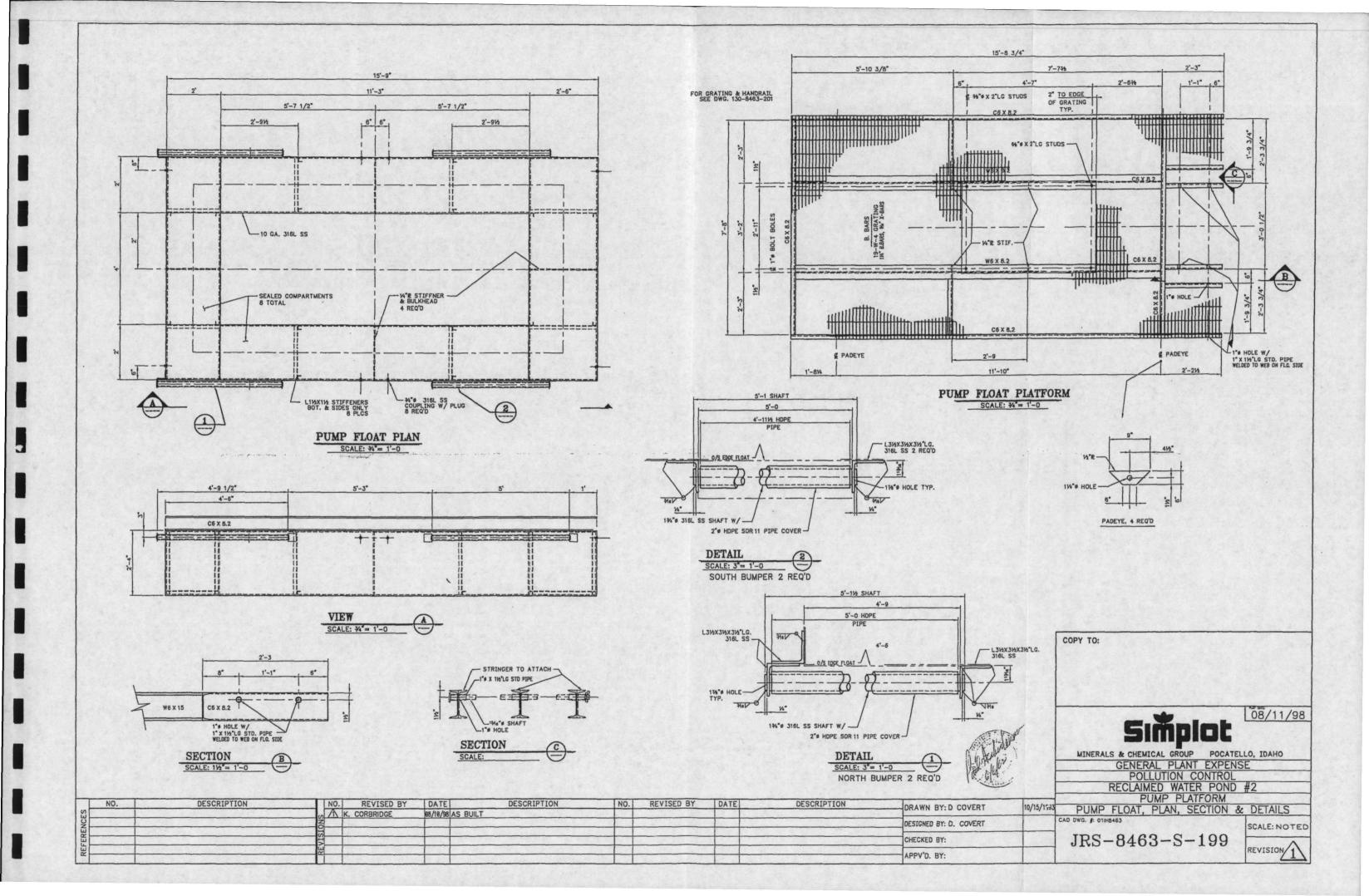
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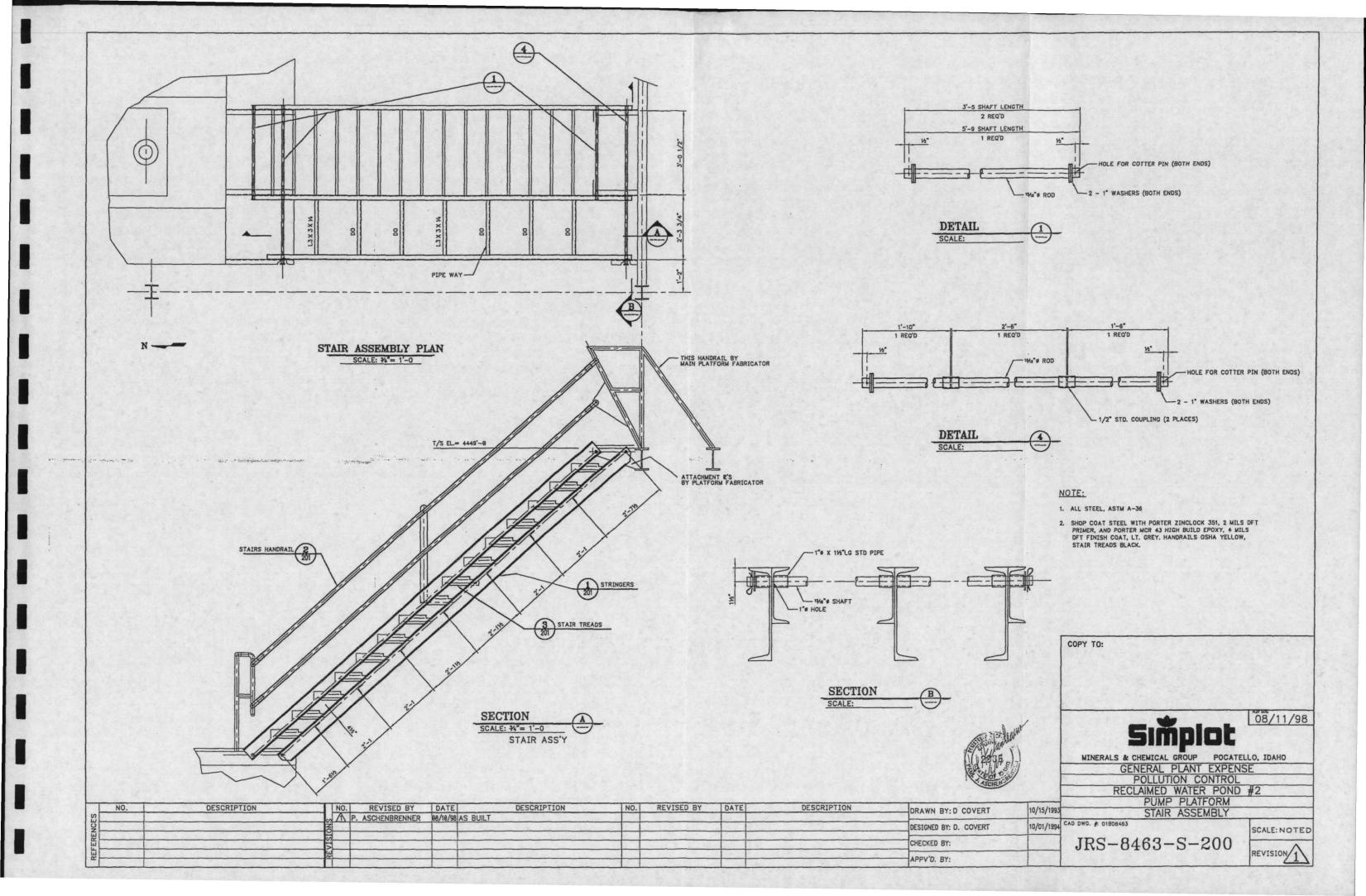
MINERALS & CHEMICAL GROUP POCATELLO, IDAHO
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POLLUTION CONTROL
RECLAIMED WATER POND #2
PUMP PLATFORM
GENERAL ARRANGEMENT
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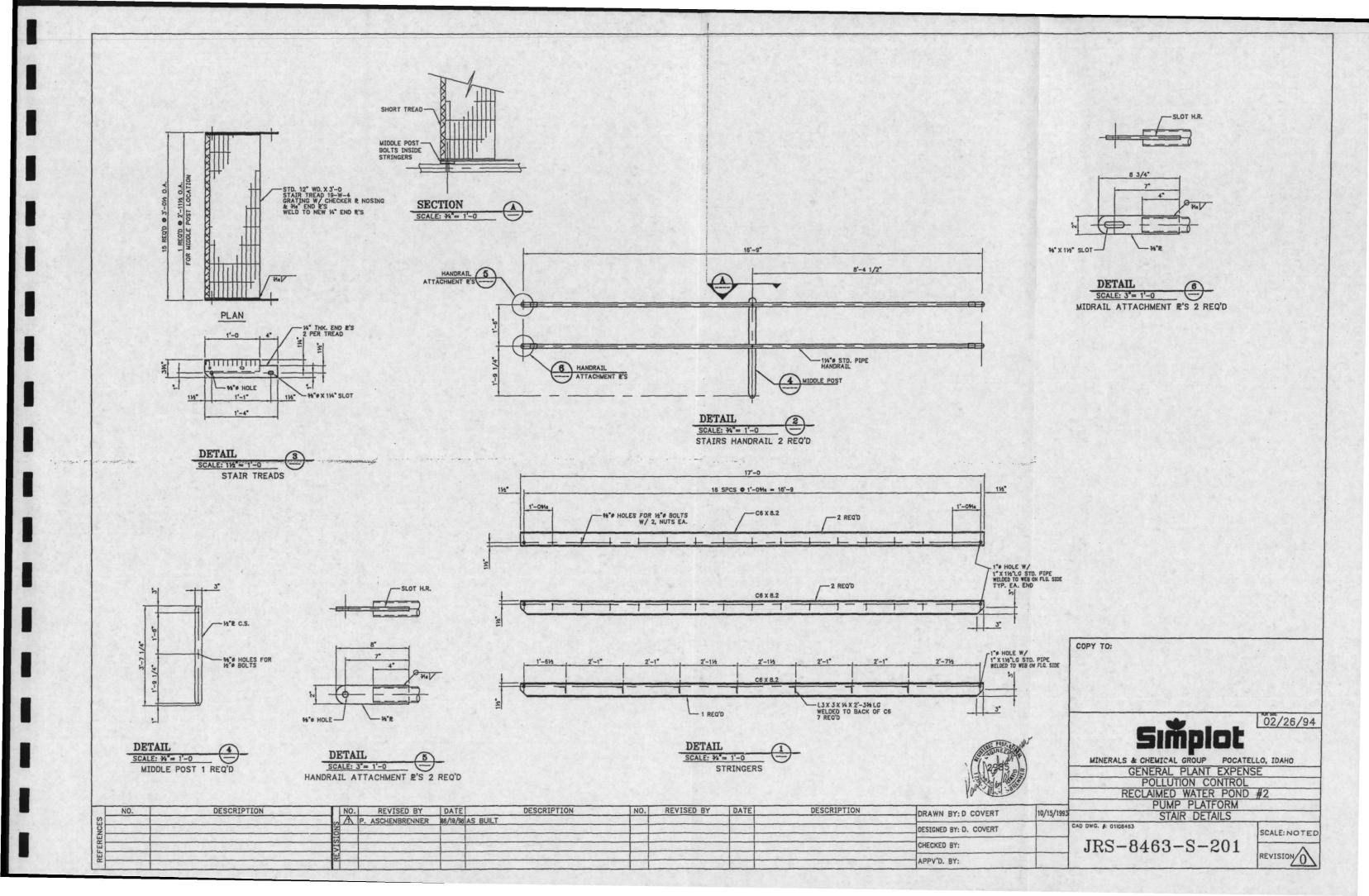
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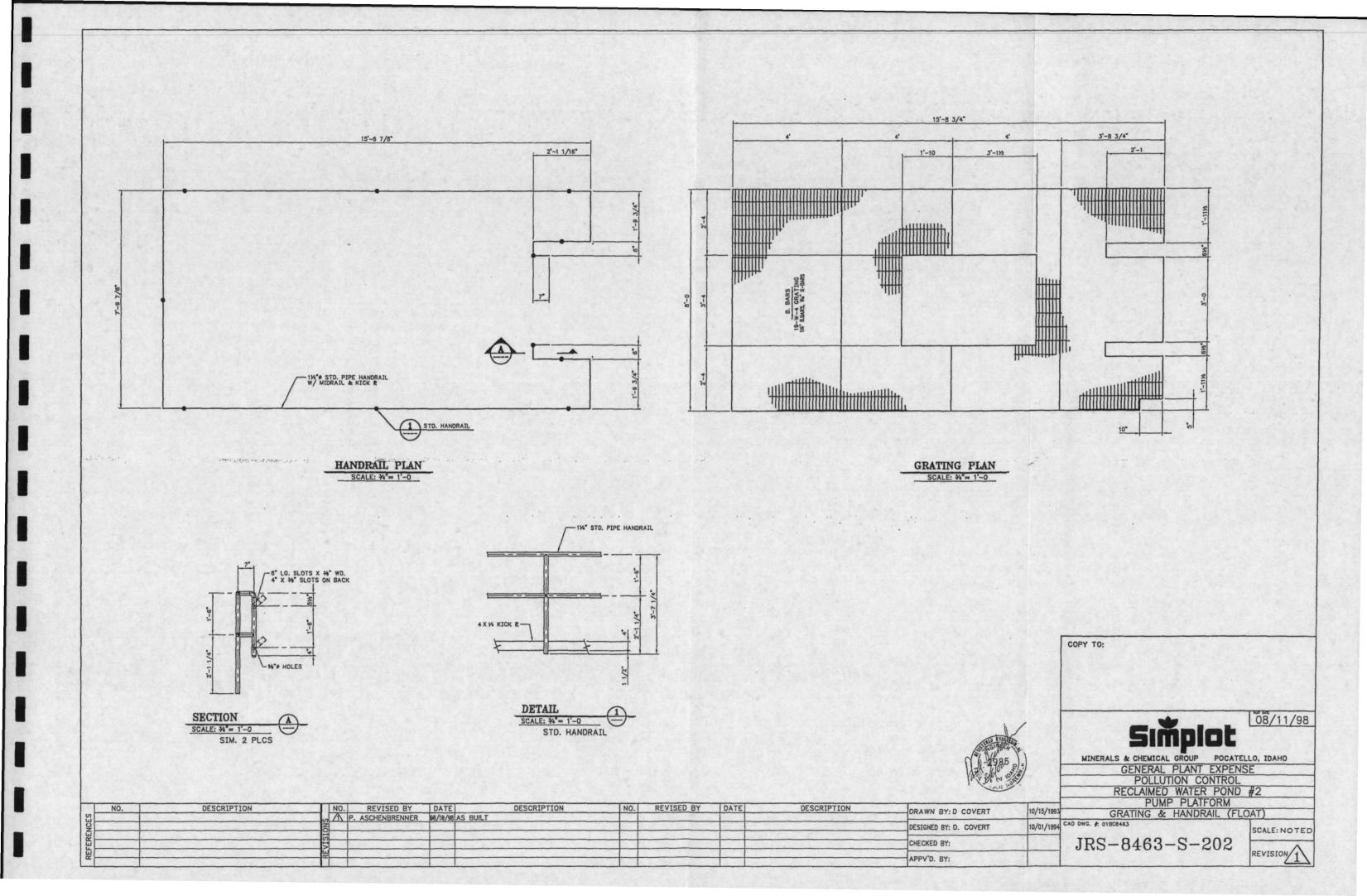
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	- X								APPV'D. BY:	
	DESCRIPTION			DESCRIPTION  NO. REVISED BY DATE  P. ASCHENBRENNER 88/18/98/AS BUILT						P. ASCHENBRENNER 88/19/98 AS BUILT  DESIGNED BY: D. COVERT  CHECKED BY:

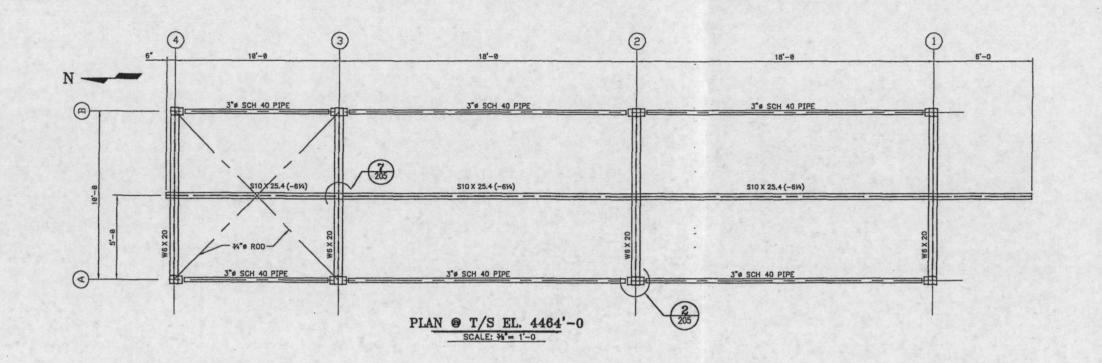
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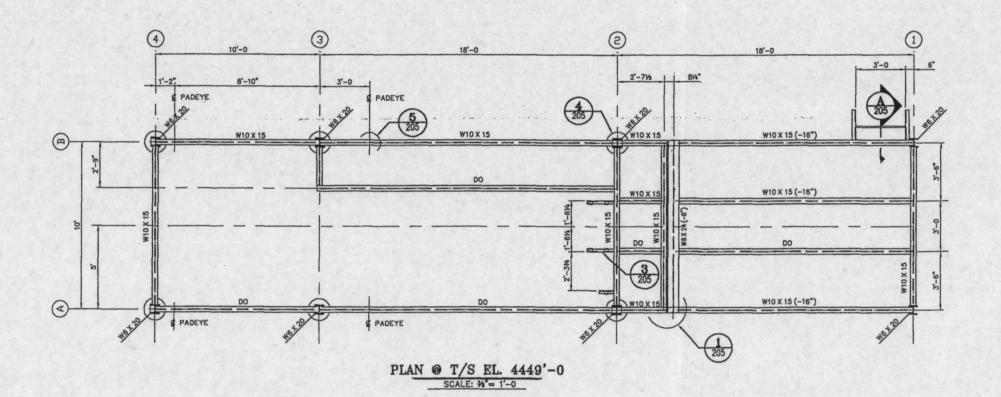














# NOTE:

- 1. ALL STEEL, ASTM A-36
- SHOP COAT STEEL WITH PORTER ZINCLOCK 351, 2 MILS DFT PRIMER, AND PORTER MCR 43 HIGH BUILD EPOXY, 4 MILS DFT FINISH COAT, LT. GREY. HANDRAILS OSHA YELLOW,

COPY TO:

08/11/98

MINERALS & CHEMICAL GROUP POCATELLO, IDAHO

GENERAL PLANT EXPENSE

POLLUTION CONTROL

RECLAIMED WATER POND #2

PUMP PLATFORM

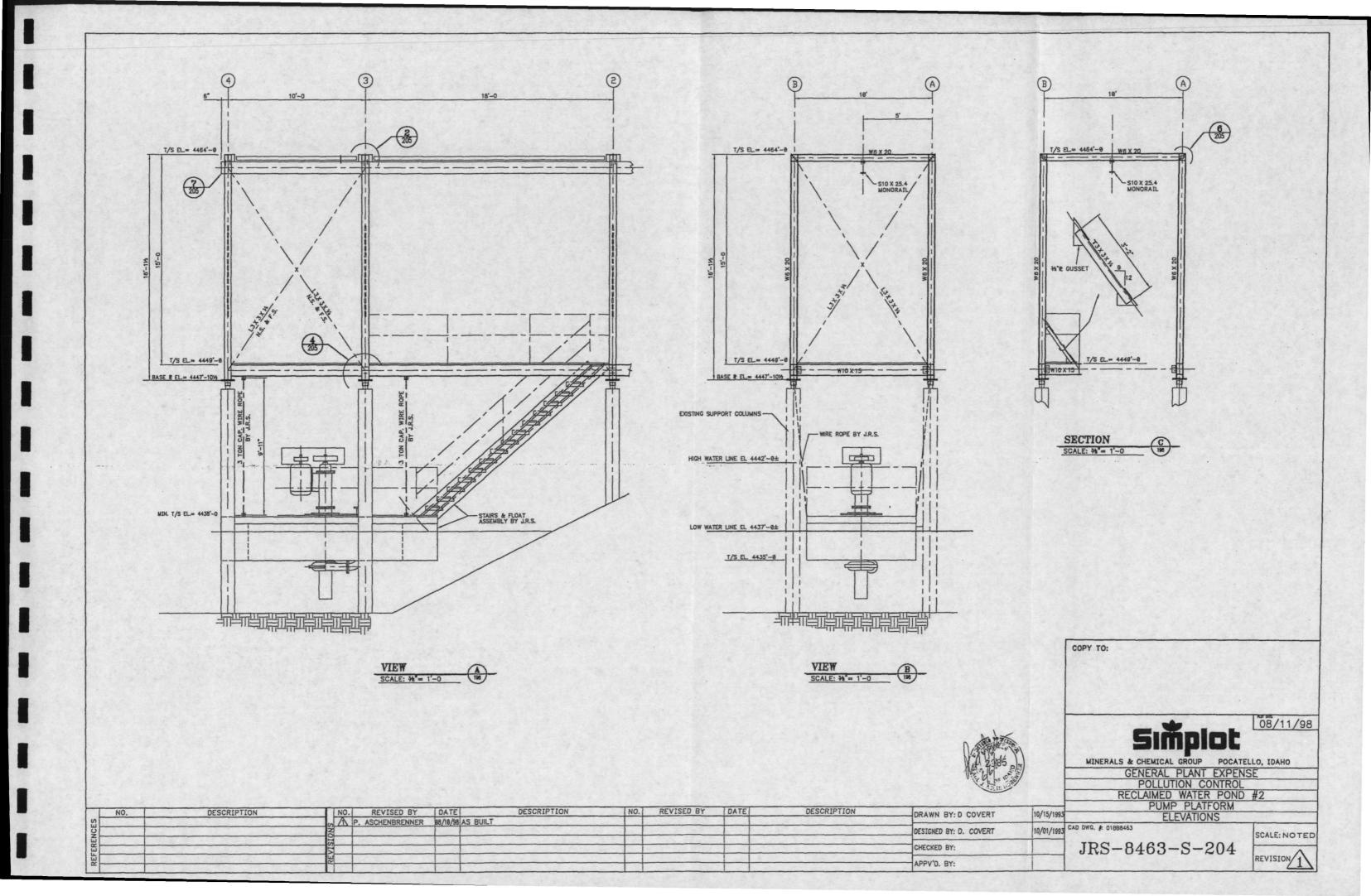
PLATFORM STRUCT STEEL PLANS

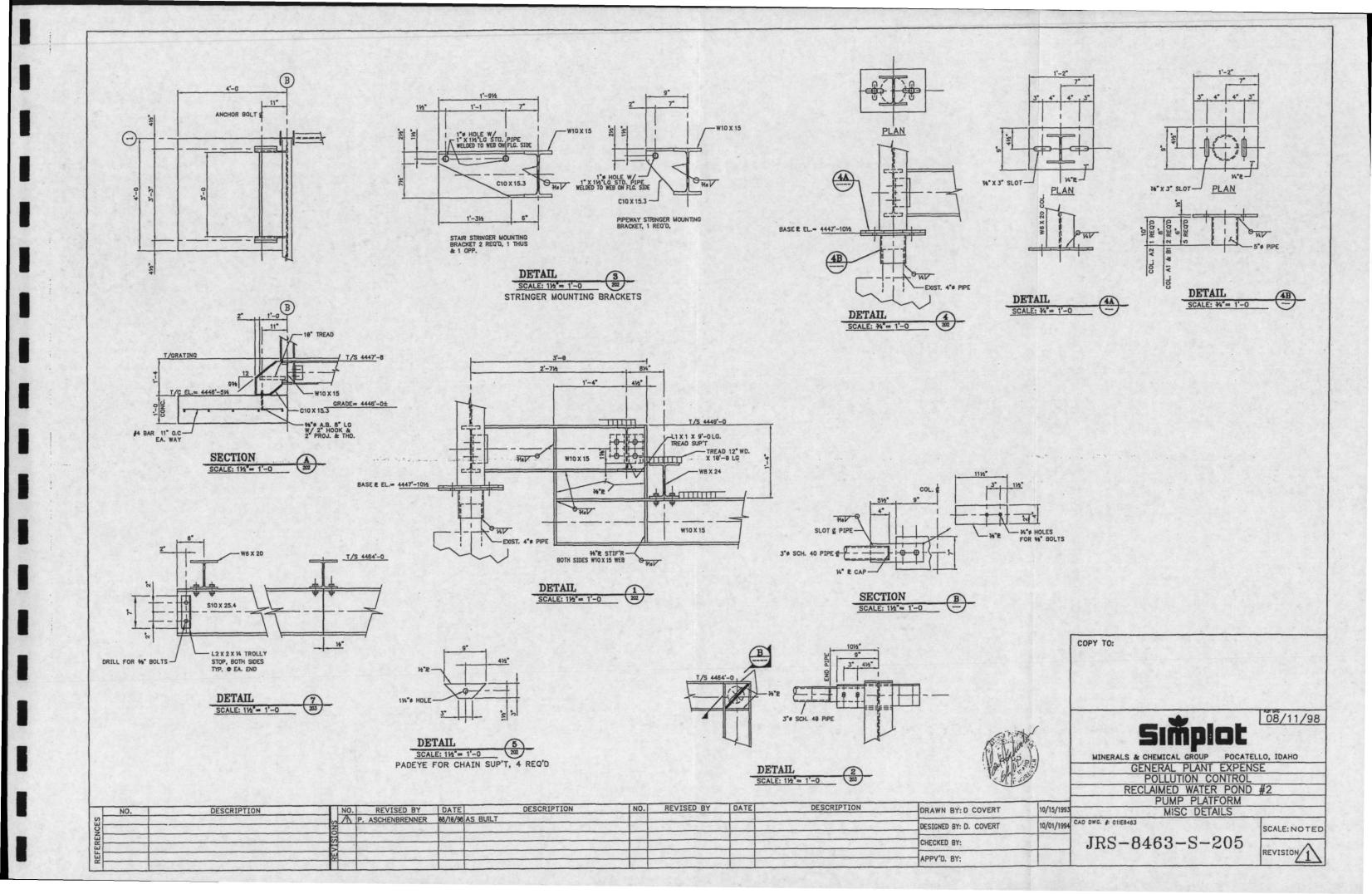
DWG. 6: 01/87463

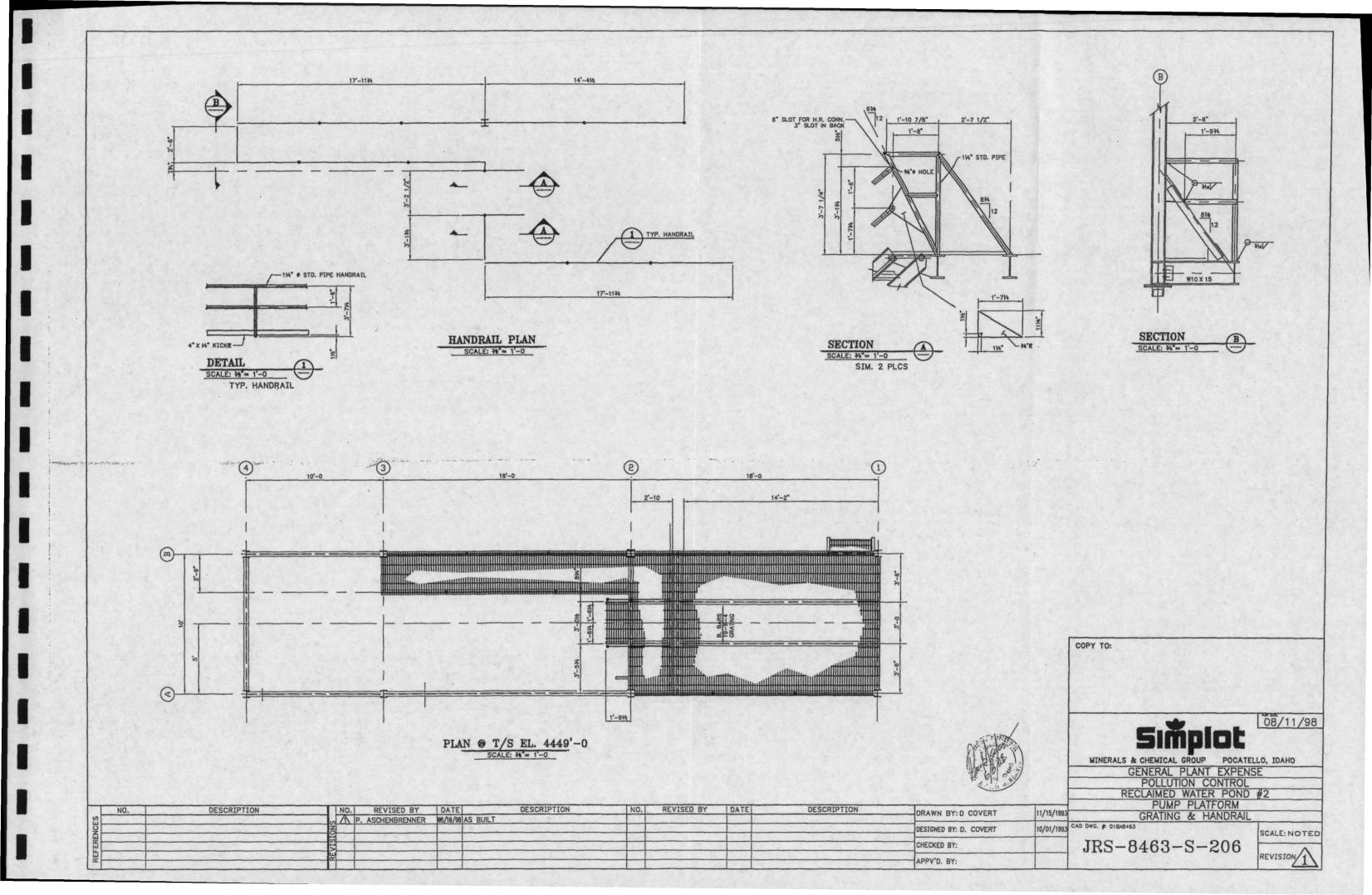
SCALE: NOTED REVISION 1

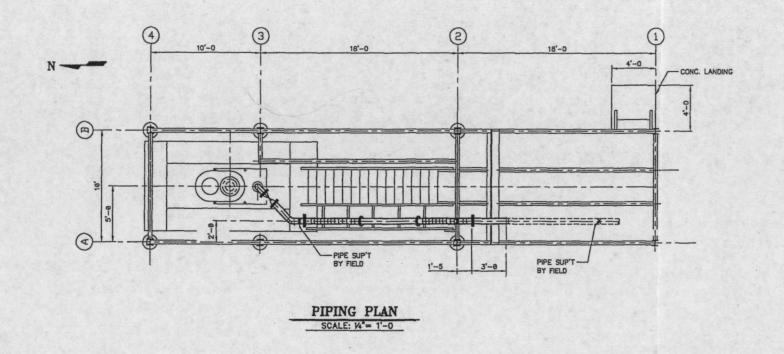
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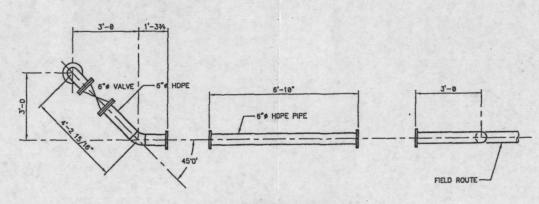
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NCE		SNO	P. ASCHENBRENNER	60/16/90 AS BUILT						DESIGNED BY: D. COVERT	10/01/1994
ER		VISI								CHECKED BY:	
REF		A R								APPV'D. BY:	



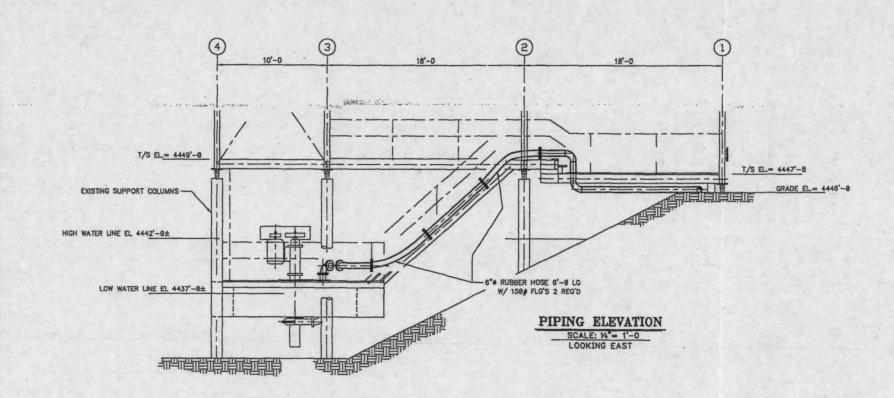


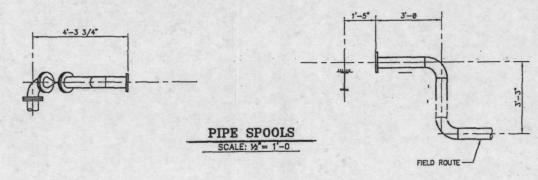






PIPE SPOOLS PLAN
SCALE: 1/2 1'-0





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GENERAL PLANT EXPENSE
POLLUTION CONTROL

RECLAIMED WATER POND #2

DISCHARGE PIPING, PLATFORM AREA

PLAN, ELEVATION & DETAILS

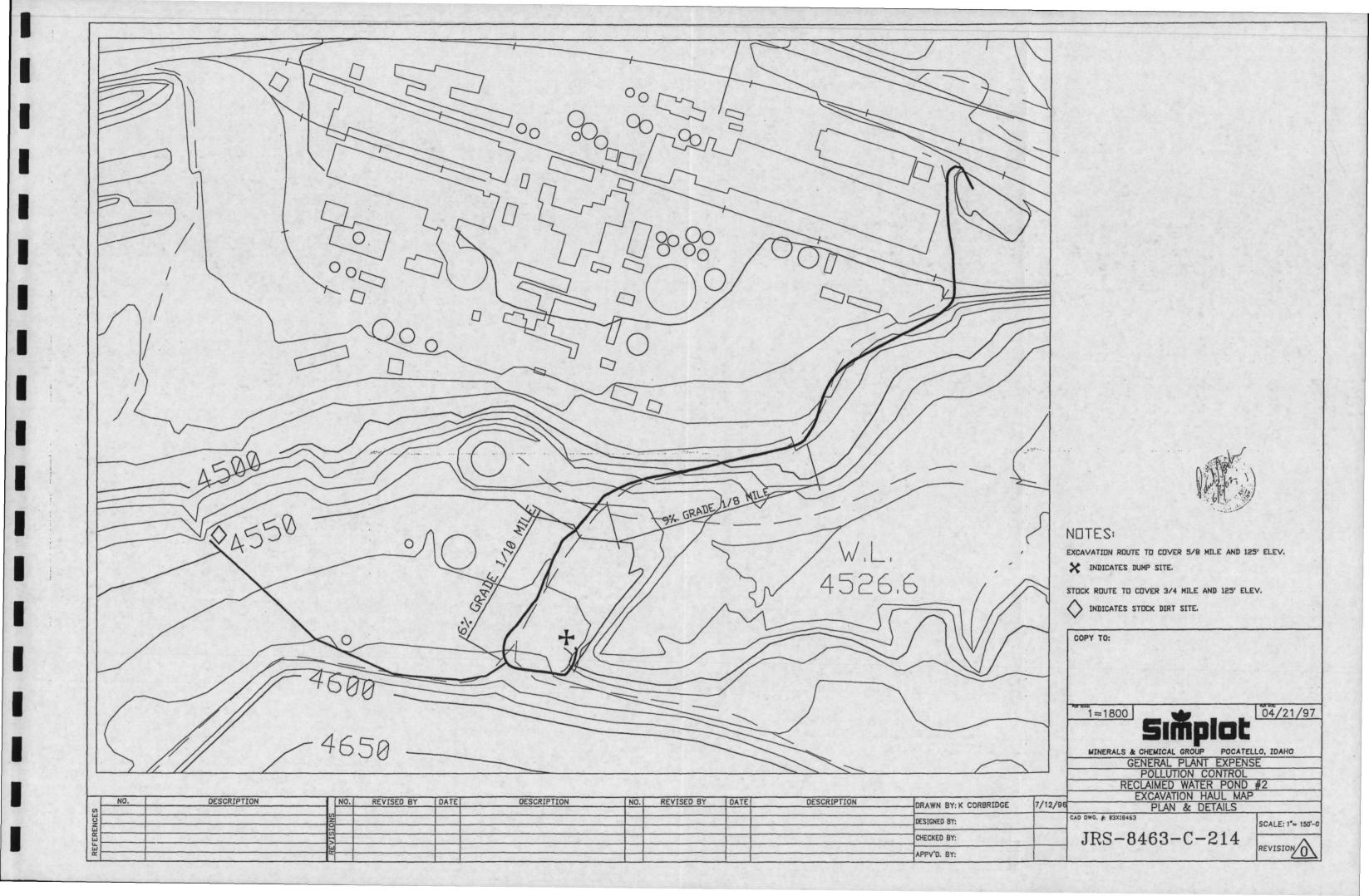
CAD DWG. & 0108463

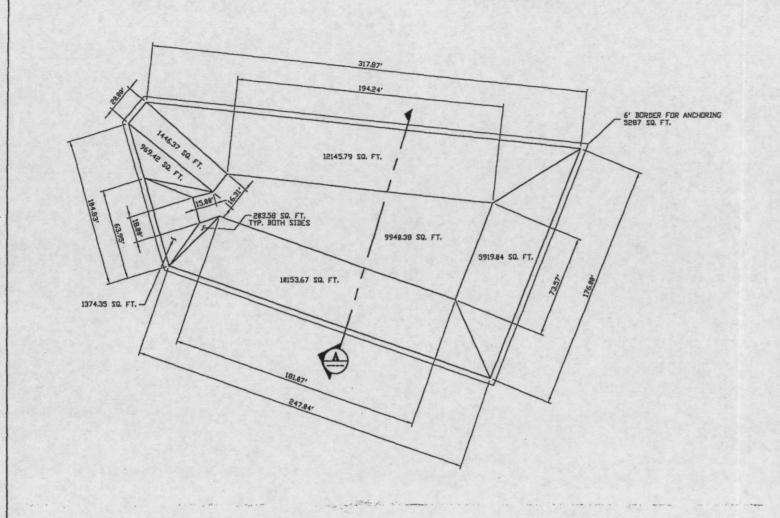
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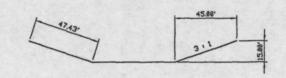
SCALE: NOTED REVISION 1

08/11/98

													-
	NO.	DESCRIPTION	NO. RE	VISED BY	08/10/98 AS BUILT	DESCRIPTION	NO.	REVISED BY	DATE	DESCRIPTION	DRAWN BY: D COVERT	10/15/199	93
ES		NOT SELECTION OF THE PARTY OF THE PARTY.	P. ASCH	HENBRENNER	88/19/98 AS BUILT						DIAMIT DIED GOTEKT		-
2			NO								DESIGNED BY: D. COVERT	10/01/199	93 0
RE			IS										1
FE			7		1 200 1 19 13 15						CHECKED BY:		
137			X								APPV'D. BY:		
											AFFY D. UI.		







SECTION
SCALE: 3/8"=1'-0

PLANVIEW

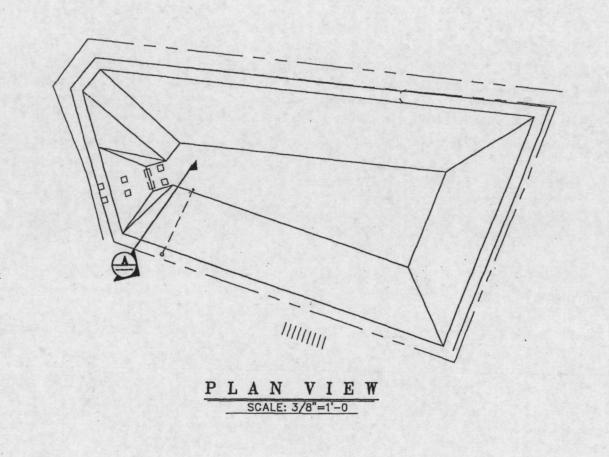
SCALE: 3/8"=1'-0

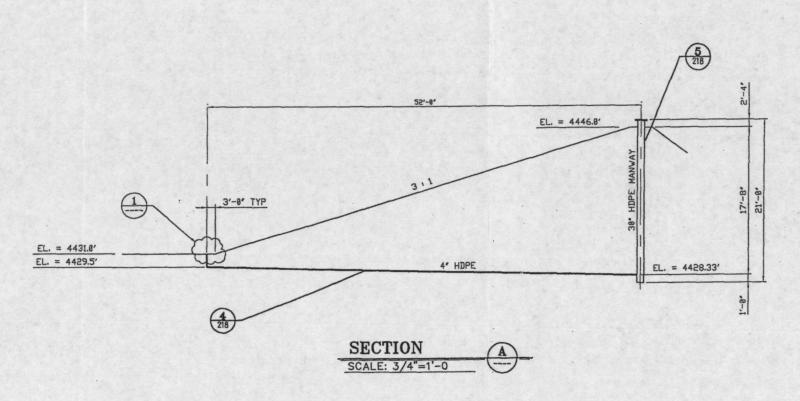
TOTAL LINER AREA = 47644 SQ. FT.
TUTAL DRAINAGE GRID AREA = 42357 SQ. FT.

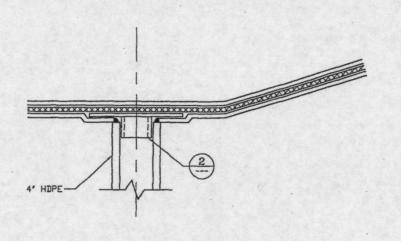


COPY TO:	
1=32	_ 08/11/98
Simplo	t
MINERALS & CHEMICAL GROUP POC	ATELLO, IDAHO
GENERAL PLANT EXP	
POLLUTION CONTRO	
RECLAIMED WATER POI	
LINER PLAN & DETA	AILS
CAD DWG. #: 03X28463	SCALF: 3/8"=1"-0

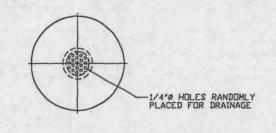
-	NO I	DESCRIPTION	I NO.	REVISED BY	DATE	DESCRIPTION	TNO.1	REVISED BY	DATE	DECORPTION			LINER PLAN & DETAILS	
S	NU.	DESCRIPTION		P. ASCHENBRENNER		DESCRIPTION	NU.	KEYISED BI	DATE	DESCRIPTION	DRAWN BY: K CORBRIDGE	4/21/97		
NCE			NO								DESIGNED BY:		CAD DWG. #: 03X28463	SCALE: 3/8"=1'-0
ERE			NIS.								CHECKED BY:		JRS-8463-C-215	1
RE			RE								APPV'D. BY:			REVISION 1

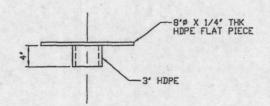
















APPV'D. BY:

MINERALS & CHEMICAL GROUP POCATELLO, IDAHO

GENERAL PLANT EXPENSE

POLLUTION CONTROL

RECLAIMED WATER POND #2

LEAK DETECTION SYSTEM

PLAN & DETAILS

CAD DWG. F. 83X38463

NO. DESCRIPTION NO. REVISED BY DATE DESCRIPTION NO. REVISED BY DATE DESCRIPTION DRAWN BY: K CORBRIDGE 04/22/1997

OF CAD DWG. # 83X38463

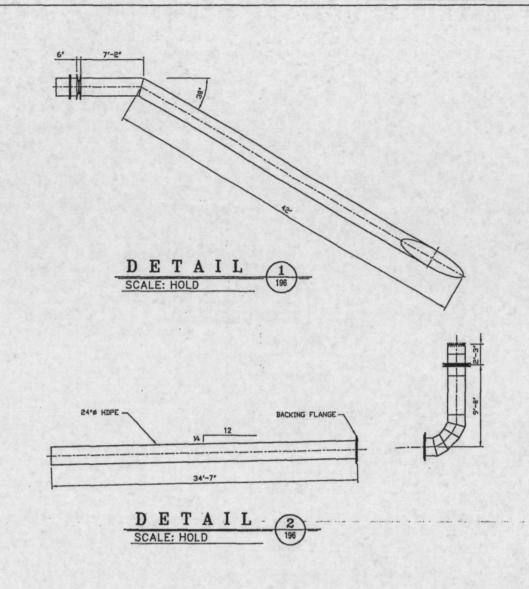
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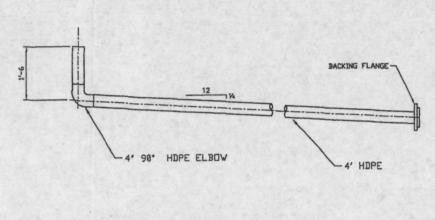
JRS-84

JRS-8463-C-216

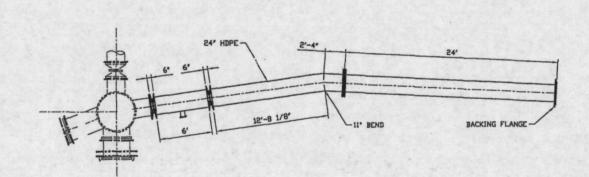
SCALE: 3/8"=1'-0

REVISION 1

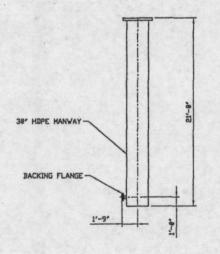




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D E T A I L



DETAIL

COPY TO:

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GENERAL PLANT EXPENSE

POLLUTION CONTROL

RECLAIMED WATER POND #2

PIPING PLAN & DETAILS

DESCRIPTION NO. REVISED BY DATE DESCRIPTION REVISED BY DATE DRAWN BY: B COOPER 07/15/1997 DESIGNED BY: CHECKED BY: APPV'D. BY:

CAD DWG. #: 046R8463 JRS-8463-P-218

SCALE: REVISION

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